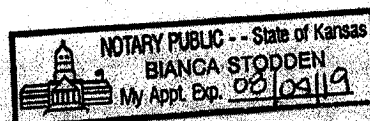


| | | | |
|--|---|---|-------------------------|
| Form 1 Page 1 Execution Page | U.S. SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549 APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR, REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT | Date filed (MM/DD/YY) 01/03/19 | OFFICIAL USE ONLY |
| <p>WARNING: Failure to keep this form current and to file accurate supplementary information on a timely basis, or the failure to keep accurate books and records or otherwise to comply with the provisions of law applying to the conduct of the applicant would violate the federal securities laws and may result in disciplinary, administrative or criminal action.</p> | | | |
| INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACTS MAY CONSTITUTE CRIMINAL VIOLATIONS | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> APPLICATION <input checked="" type="checkbox"/> AMENDMENT </div> <div style="text-align: right;"> SEC Mail Processing JAN 07 2019 Washington, DC </div> </div> | | | |
| <p>1. State the name of the applicant: <u>Cboe Exchange, Inc.</u></p> | | | |
| <p>2. Provide the applicant's primary street address (Do not use a P.O. Box): <u>400 South LaSalle Street</u> <u>Chicago, Illinois 60605</u></p> | | | |
| <p>3. Provide the applicant's mailing address (if different): _____ _____</p> | | | |
| <p>4. Provide the business telephone and facsimile number: <u>(913) 815-7000</u> (Telephone) <u>(913) 815-7119</u> (Facsimile)</p> | | | |
| <p>5. Provide the name, title and telephone number of a contact employee: <u>Anders Franzon</u> SVP, Deputy General Counsel, Cboe Exchange, Inc. <u>(913) 815-7154</u> (Name) (Title) (Telephone Number)</p> | | | |
| <p>6. Provide the name and address of counsel for the applicant: <u>Pat Sexton</u> <u>400 S. LaSalle Street</u> <u>Chicago, IL 60605</u></p> | | | |
| <p>7. Provide the date that applicant's fiscal year ends: <u>December 31</u></p> | | | |
| <p>8. Indicate legal status of the applicant: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Partnership <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Liability Company <input type="checkbox"/> Other (specify): _____</p> <p>If other than a sole proprietor, indicate the date and place where applicant obtained its legal status (e.g. state where incorporated, place where partnership agreement was filed or where applicant entity was formed): (a) Date (MM/DD/YY): <u>11/01/07</u> (b) State/Country of formation: <u>Delaware/United States of America</u> (c) Statute under which applicant was organized: <u>General Corporation Law of the State of Delaware</u></p> | | | |
| <p>EXECUTION: The applicant consents that service of any civil action brought by, or notice of any proceeding before, the Securities and Exchange Commission in connection with the applicant's activities may be given by registered or certified mail or confirmed telegram to the applicant's contact employee at the main address, or mailing address if different, given in Items 2 and 3. The undersigned, being first duly sworn, deposes and says that he/she has executed this form on behalf of, and with the authority of, said applicant. The undersigned and applicant represent that the information and statement contained herein, including exhibits, schedules, or other documents attached hereto, and other information filed herewith, all of which are made a part hereof, are current, true and complete.</p> | | | |
| <p>Date: <u>01/03/19</u> (MM/DD/YY)</p> <p>By: <u>[Signature]</u> <u>Anders Franzon SVP, Deputy General Counsel</u> (Signature) (Printed Name and Title)</p> <p>Subscribed and sworn before me this <u>3rd</u> day of <u>January</u>, 2019 by <u>[Signature]</u> (Month) (Year) (Notary Public)</p> <p>My Commission expires <u>08/04/19</u> County of <u>Johnson</u> State of <u>Kansas</u></p> | | | |
| <p>This page must always be completed in full with original, manual signature and notarization.</p> <p>Affix notary stamp or seal where applicable.</p> | | | |





2019 JAN 23 AM 6:35

January 3, 2019

SEC / TM

SEC Mail Processing

JAN 07 2019

Via Federal Express

Washington, DC

Ms. Jeanette Marshall
Securities and Exchange Commission
Division of Trading and Markets
100 F Street, N.E.
Mail Stop 6628
Washington, DC 20549-0001

Re: ***Cboe Exchange, Inc.
Form 1 Amendment***

Dear Jeanette:

On behalf of Cboe Exchange, Inc. (or the "Exchange"), and in connection with the Cboe Form 1 that is on file with the Securities and Exchange Commission ("Commission"), enclosed please find one original and two copies of the Execution Page to Form 1 as well as the following exhibits¹:

- Exhibit C (updated to reflect list of Directors and Committee Members);
- Exhibit M (updated to provide a list of firms currently approved as members or other users of the Exchange)

This amendment is filed in accordance with SEC Rule 6a-2 and is intended to replace Exhibits C & M currently on file with the Commission. Please do not hesitate to contact me if you have any questions or require anything further.

Sincerely,

Anders Franzon
SVP, Deputy General Counsel

Enclosures

¹ See Attachment for a comprehensive list of updates to Exhibit C & M



Attachment

Summary of changes made to Exhibit C:

- The Options Exchange, Incorporated was dissolved

Summary of changes made to Exhibit M:

- MNR Executions, LLC, Bengal Capital Trading LLC, Andrie Trading LLC, and PTR, Inc. were terminated from Cboe Exchange, Inc.

Exhibit C

Exhibit Request:

For each subsidiary or affiliate of the applicant, and for any entity with whom the applicant has a contractual or other agreement relating to the operation of an electronic trading system to be used to effect transactions on the exchange (“System”), provide the following information:

1. Name and address of organization.
2. Form of organization (e.g., association, corporation, partnership, etc.).
3. Name of state and statute citation under which organized. Date of incorporation in present form.
4. Brief description of nature and extent of affiliation.
5. Brief description of business or functions. Description should include responsibilities with respect to operation of the System and/or execution, reporting, clearance, or settlement of transactions in connection with operation of the System.
6. A copy of the constitution.
7. A copy of the articles of incorporation or association including all amendments.
8. A copy of existing by-laws or corresponding rules or instruments.
9. The name and title of the present officers, governors, members of all standing committees or persons performing similar functions.
10. An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association.

Response: Please see below responses for the following entities:

A. Bats Global Markets Holdings, Inc.

1. *Name:* Bats Global Markets Holdings, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 29, 2007.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Bats Global Markets Holdings, Inc. Bats Global Markets Holdings, Inc. is the Exchange's 100% owner.
5. *Brief description of business or functions:* Bats Global Markets Holdings, Inc. is an intermediate holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

B. Direct Edge LLC

1. *Name:* Direct Edge LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on December 31, 2014. Was converted from Direct Edge, Inc., a Delaware corporation, on December 31, 2014.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Direct Edge LLC.
5. *Brief description of business or functions:* Direct Edge LLC is an intermediate holding company. Direct Edge LLC is the sole shareholder of Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws or corresponding rules or instruments:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
 - Chris Concannon (President)
 - Jill Griebenow (Senior Vice President & Chief Accounting Officer)
 - Bryan Harkins (Vice President)
 - Chris Isaacson (Vice President)
 - Jackie Hancock (Vice President)
 - Brian Schell (Treasurer)
 - J. Patrick Sexton (Secretary)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

C. Cboe BZX Exchange, Inc.

1. *Name:* Cboe BZX Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on November 1, 2007.
4. *Brief description of nature and extent of affiliation:* Cboe BZX Exchange, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe BZX Exchange, Inc. operates as a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Jackie Hancock (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

D. Cboe BYX Exchange, Inc.

1. *Name:* Cboe BYX Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on July 31, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe BYX Exchange, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe BYX Exchange, Inc. operates as a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Jackie Hancock (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

E. Cboe EDGA Exchange, Inc.

1. *Name:* Cboe EDGA Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under the General Corporation Law of the State of Delaware on March 9, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe EDGA Exchange, Inc. is an indirect wholly-owned subsidiary of Cboe Global Markets, Inc., the Exchange's ultimate parent.
5. *Brief description of business or functions:* Cboe EDGA Exchange, Inc. operates a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Jackie Hancock (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
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- William Speth (VP, Research & Product Development)
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- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

F. Cboe EDGX Exchange, Inc.

1. *Name:* Cboe EDGX Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under the General Corporation Law of the State of Delaware on March 9, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe EDGX Exchange, Inc. is an indirect wholly-owned subsidiary of Cboe Global Markets, Inc., the Exchange's ultimate parent.
5. *Brief description of business or functions:* Cboe EDGX Exchange, Inc. operates a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Jackie Hancock (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

G. Cboe C2 Exchange, Inc.

1. *Name:* Cboe C2 Exchange, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), July 21, 2009.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe C2 Exchange, Inc. is a registered national securities exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and COO)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
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- Eric Frait (VP, Business Analysis)
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- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebnow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Marrin Lara (VP, Deputy Chief Reg Officer)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Jackie Hancock (VP, Controller)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

H. Cboe Trading, Inc.

1. *Name:* Cboe Trading, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 16, 2005.
4. *Brief description of nature and extent of affiliation:* Cboe Trading, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe Trading, Inc. is a broker-dealer registered as such with the Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority and other self-regulatory organizations. Cboe Trading, Inc. provides routing of orders from the Exchange Cboe BYX Exchange, Inc., Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc. to other securities exchanges, facilities of securities exchanges, automated trading systems, electronic communication networks or other broker-dealers.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Chris Isaacson
- Brian Schell

Current Officers

- Troy Yeazel (President)
- Anders Franzon (Secretary)
- Bryan Upp (Chief Compliance Officer)
- Jackie Hancock (FINOP, Treasurer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

I. Omicron Acquisition Corp.

1. *Name:* Omicron Acquisition Corp.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on February 7, 2011.
4. *Brief description of nature and extent of affiliation:* Omicron Acquisition Corp. is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Omicron Acquisition Corp. is an intermediate holding company of Cboe Worldwide Holdings Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Ed Tilly (Chief Executive Officer)
 - Chris Concannon (President)
 - Jill Griebenow (Senior Vice President & Chief Accounting Officer)
 - Mark Hemsley (Vice President)
 - Jackie Hancock (Vice President)
 - Brian Schell (Treasurer)
 - J. Patrick Sexton (Secretary)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

J. Cboe FX Holdings, LLC

1. *Name:* Cboe FX Holdings, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on May 15, 2000.
4. *Brief description of nature and extent of affiliation:* Cboe FX Holdings, LLC is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Holdings, LLC is an intermediate holding company of Cboe FX Markets, LLC, Cboe FX Services, LLC, Cboe SEF, LLC, and Bats Hotspot IB LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

K. Cboe FX Markets, LLC

1. *Name:* Cboe FX Markets, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on August 7, 2001.
4. *Brief description of nature and extent of affiliation:* Cboe FX Markets, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Markets, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- John Deters (EVP, Chief Strategy Officer and Head of Corporate Initiatives)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of U.S. Equities and Global FX)
- Mark Hemsley (EVP, President Europe)
- Chris Isaacson (EVP, CIO)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Alexandra Albright (Chief Compliance Officer)
- Barry Calder (Head of Liquidity)
- Sean Cleary (VP, Sales FX)
- James Enstrom (VP, Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Greg Hoogasian (SVP, Chief Regulatory Officer)

- Stephanie Marrin Lara (Deputy Chief Regulatory Officer)
- Paul Reidy (VP, Cboe FX COO)
- Lisa Shemie (VP, Associate General Counsel and Chief Legal Officer)
- Jackie Hancock (VP, Controller)
- Aaron Weissenfluh (VP, CISO)
- Brian Schell (EVP, CFO and Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

L. Cboe FX Services, LLC

1. *Name:* Cboe FX Services, LLC
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on November 22, 2004.
4. *Brief description of nature and extent of affiliation:* Cboe FX Services, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Services, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. Indication of whether such business or organization ceased to be associated with the applicant during previous year: Not applicable.

M. Cboe International Holdings Limited

1. *Name:* Cboe International Holdings Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe International Holdings Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe International Holdings Limited is a holding company of Cboe FX Europe Limited,,
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

N. Cboe FX Europe Limited

1. *Name:* Cboe FX Europe Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Europe Limited is wholly-owned by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Europe Limited operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

O. Cboe FX Asia Pte. Limited

1. *Name:* Cboe FX Asia Pte. Limited
Address: 16 Collyer Quay, #2104, Sixteen Collyer Quay, Singapore (049318)
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Singapore under the Companies Act (Cap. 50) on February 23, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Asia Pte. Limited is wholly-owned by Cboe Worldwide Holdings Limited which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Asia Pte. Limited operates an institutional spot foreign exchange market.
6. *Copy of constitution:* No changes.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Ng Lip Chih (Singapore Nominee)

Current Officers

- Chris Concannon (President)
- Ang Yee Koon Daphne, Secretary (Allen & Gledhill)
- Tan Zhe Lei, Secretary (Allen & Gledhill)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

P. Cboe Europe Limited

1. *Name:* Cboe Europe Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 1985 on March 28, 2008.
4. *Brief description of nature and extent of affiliation:* Cboe Europe Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Europe Limited is recognized as a Recognized Investment Exchange in the United Kingdom under the Financial Services and Markets Act 2000 ("FSMA"). It operates a platform for trading of European equity securities.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Woodman
- Mark Hemsley
- Angelo Evangelou
- Richard Balarkas
- Rebecca Fuller
- Julian Corner
- Kristian West
- Ted Hood

Current Officers

- Mark Hemsley (Chief Executive Officer)
- Antonio Amelia (Secretary)
- Stephanie Renner (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)
- Jerry Avenell (Co-Head Sales)
- Alex Dalley (Co-Head Sales)
- Guy Simpkin (Head of Business Development)
- David Howson (COO)

Standing Committees

Audit, Risk and Compliance Committee

- Ted Hood
- Rebecca Fuller
- Richard Balarkas

Remuneration Committee

- John Woodman
- Rebecca Fuller
- Kristian West

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

Q. Cboe Chi-X Europe Limited

1. *Name:* Cboe Chi-X Europe Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales.
4. *Brief description of nature and extent of affiliation:* Cboe Chi-X Europe Limited is wholly-owned by Cboe Europe Limited which, in turn, is indirectly wholly owned by Bats Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Chi-X Europe Limited is authorized in the United Kingdom under the Financial Services and Markets Act 2000 ("FSMA"), as an investment firm. Between April 30, 2012 and May 20, 2013 it was a dormant company. Since May 20, 2013, Cboe Chi-X Europe Limited operates the smart order router that is needed for the routing strategies deployed by Cboe Europe Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Mark Hemsley
- Adam Eades
- John Woodman

Current Officers

- John Woodman (Chairman)
- Mark Hemsley (Chief Executive Officer)
- Antonio Amelia (Secretary)
- Jill Griebenow (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

R. Cboe ETF.com, Inc.

1. *Name:* Cboe ETF.com, Inc.
Address: 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on March 28, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe ETF.com, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe ETF.com, Inc. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Dave Nadig (Senior Director)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Laura Morrison (Vice President)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Alexandra Albright, Chief Compliance Officer
- Todd Furney, Chief Risk Officer
- James Enstrom, VP & Chief Audit Executive
- Aaron Weissenfluh, VP & CISO

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

S. **IndexPubs S.A.**

1. *Name:* IndexPubs S.A.
Address: Almagro Plaza, Ste. 508, Pedro Ponce Carrasco, E8-06 y Diego de Almagro, 170516 – Quito, Ecuador
2. *Form of organization:* Corporation (Soceidad Anonima or S.A.).
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in Ecuador on January 15, 2008.
4. *Brief description of nature and extent of affiliation:* IndexPubs S.A. is owned 0.1% by Fernando Rivera and 99.9% by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* IndexPubs S.A. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* No changes.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

Current Officers

- Dave Nadig (President)
- Patricia Hidalgo (General Manager)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

T. Cboe SEF, LLC

1. *Name:* Cboe SEF, LLC
Address: 17 State Street, 31st Floor, New York, NY 10004
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on April 19, 2012.
4. *Brief description of nature and extent of affiliation:* Cboe SEF, LLC is wholly-owned by Cboe FX Holdings LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe SEF, LLC is a swap execution facility registered with the Commodity Futures Trading Association, which will soon list non-deliverable foreign exchange forwards for trading.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and Chief Operating Officer)
- Alexandra Albright (Chief Compliance Officer)
- Sean Cleary (Vice President)
- John Deters (EVP, Chief Strategy Officer & Head of Corporate Initiatives)
- James Enstrom (Vice President & Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (Executive Vice President, Head of U.S. Equities and Global FX)
- Mark Hemsley (Executive Vice President, President Europe)
- Gregory Hoogasian (Senior Vice President & Chief Regulatory Officer)
- Chris Isaacson (Executive Vice President & Chief Information Officer)
- Andrew Lowenthal (Executive Vice President, Head of Global Derivatives & CFE Senior Managing Director)
- Stephanie Marrin (Deputy Chief Regulatory Officer)
- Paul Reidy (Vice President)

- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Brian Schell (Executive Vice President, Chief Financial Officer & Treasurer)
- Lisa Shemie (Vice President, Associate General Counsel & Cboe SEF Chief Legal Officer)
- Jackie Hancock (Vice President and Controller)
- Aaron Weissenfluh (Vice President & Chief Information Security Officer)

Managers

- Chris Concannon
- Gilbert Bassett
- Michael Gorham
- James Parisi
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

U. Cboe Worldwide Holdings Limited

1. *Name:* Cboe Worldwide Holdings Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in England and Wales under the Companies Act 2006 on November 9, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe Worldwide Holdings Limited is wholly-owned by Omicron Acquisition Corp., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Worldwide Holdings Limited is an intermediate holding company of Cboe Europe Limited, Cboe International Holdings Limited, Cboe Hong Kong Limited, Cboe UK Limited, Cboe FX Asia Pte. Limited, and IndexPubs S.A.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

V. Cboe Global Markets, Inc.

1. *Name:* Cboe Global Markets, Inc.
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware General Corporation Law (8 Del. C. §101, et seq), August 15, 2006.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC is a wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Frank English
- William Farrow
- Edward Fitzpatrick
- Janet Froetscher
- Jill Goodman
- Roderick Palmore
- Joe Ratterman
- Michael Richter
- Carole Stone
- Eugene Sunshine
- Jill Sommers
- James Parisi

Current Officers

- Ed Tilly (Chairman and Chief Executive Officer)
- Chris Concannon (President and COO)
- Brian Schell (EVP, CFO and Treasurer)
- Chris Isaacson (EVP and CIO)
- Mark Hemsley (EVP, President Europe)
- J. Patrick Sexton (EVP, General Counsel and Corporate Secretary)

- Bryan Harkins (EVP, Equities and FX)
- Andrew Lowenthal (EVP, Global Derivatives)
- John Deters (EVP, Corporate Strategy and Multi-Asset Solutions)
- Jill Griebenow (SVP & Chief Accounting Officer)

Compensation Committee

- Frank English
- Janet Froetscher
- Edward Fitzpatrick
- James Parisi

Audit Committee

- William Farrow
- Carole Stone
- Michael Richter
- James Parisi

Nominating and Governance Committee

- Frank English
- Jill Goodman
- Roderick Palmore
- Carole Stone
- Janet Froetscher

Finance and Strategy Committee

- Frank English
- Jill Goodman
- Joe Ratterman
- Roderick Palmore
- Jill Sommers

Risk Committee

- William Farrow
- Edward Fitzpatrick
- Janet Froetscher
- Michael Richter
- Carole Stone

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

W. Cboe Futures Exchange, LLC

1. *Name:* Cboe Futures Exchange, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
July 16, 2002.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Futures Exchanges, LLC is a
designated contract market (DCM) approved by the Commodity Futures Trading
Commission in August 2003. Cboe Futures Exchange, LLC is a fully electronic
futures exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Chris Concannon
- Gilbert Bassett, Jr.
- Michael Gorham
- James Parisi
- Jill Sommers

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Joseph Caauwe (Managing Director - CFE)
- Kevin Carrai (Vice President, Connectivity, Data & Member Services)
- John Deters (Executive Vice President, Chief Strategy Officer & Head of
Corporate Initiatives)
- James Enstrom (Vice President & Chief Audit Executive)
- Todd Furney (Chief Risk Officer)

- David Gray (Senior Vice President, Global Client Services & CFE Managing Director)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Bryan Harkins (Executive Vice President, Head of U.S. Equities and Global FX)
- Mark Hemsley (Executive Vice President, President Europe)
- Gregory Hoogasian (Senior Vice President & Chief Regulatory Officer)
- Chris Isaacson (Executive Vice President, Chief Information Officer & CFE Senior Managing Director)
- Jennifer Lamie (Chief Regulatory Advisor)
- Stephanie Marrin Lara (Deputy Chief Reg Officer)
- Andrew Lowenthal (Executive Vice President, Head of Global Derivatives & CFE Senior Managing Director)
- Matthew McFarland (Head of CFE Business Operations and Strategy & CFE Managing Director)
- Arthur Reinstein (Senior Vice President, Deputy General Counsel & CFE Chief Legal Officer)
- David Reynolds (VP & Chief Accounting Officer)
- J. Patrick Sexton (Executive Vice President, General Counsel & Corporate Secretary)
- Brian Schell (Executive Vice President, Chief Financial Officer & Treasurer)
- Jackie Hancock (Vice President and Controller)
- Aaron Weissenfluh (Vice President & Chief Information Security Officer)
- Troy Yeazel (Senior Vice President, U.S. Electronic Trading Operations and CFE Managing Director)

Standing Committees

Executive

- Chris Concannon
- Michael Gorham

Regulatory Oversight Committee

- Michael Gorham
- Gilbert Bassett
- James Parisi
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

X. CBOE Stock Exchange, LLC

1. *Name:* CBOE Stock Exchange, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
July 31, 2006.
4. *Brief description of nature and extent of affiliation:* CBOE Stock Exchange, LLC
is a 49.96%-owned subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* CBOE Stock Exchange, LLC operated
the CBOE Stock Exchange, which acted as a trading market for securities other
than options as a facility of Cboe Exchange, Inc. CBOE Stock Exchange, LLC
was approved by the SEC in March 2007. CBOE Stock Exchange, LLC ceased
trading operations on April 30, 2014.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

-
- James Fitzgibbons
- Jaap Gelderloos
- Andrew Lowenthal
- Tom O'Mara
- Rick Oscher
- John Deters
- Eric Frait
- Steve Sosnick

Current Officers

- Angelo Evangelou (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

Y. Cboe Building Corporation

1. *Name:* Cboe Building Corporation
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), August 8, 1980.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Owns facility used by Cboe Global Markets, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Marc Magrini (Vice President)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

Z. Cboe, LLC

1. *Name:* Cboe, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
August 22, 2001.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe, LLC is a limited liability
company member of OneChicago, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)
- Jackie Hancock (Vice President)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

AA. **Cboe III, LLC**

1. *Name:* Cboe III, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
May 2, 2014.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in
Tradelegs, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
 - Chris Concannon (President)
 - John Deters (Vice President)
 - Jill Griebnow (Senior Vice President & Chief Accounting Officer)
 - Jackie Hancock (Vice President)
 - Brian Schell (Treasurer)
 - J. Patrick Sexton (Secretary)
10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

BB. Cboe Bats, LLC

1. *Name:* Cboe Bats, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
September 25, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President and Chief Operating Officer)
- Alexandra Albright (VP, Market and Member Regulation)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity, Data and Member Services)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Sean Cleary (VP, Sales FX)
- Gary Compton (VP, Corporate Communications)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineering)
- Pamela Culpepper (Chief HR Officer)
- John Deters (EVP, Chief Strategy Officer and Head of Corporate Initiatives)
- Laura Dickman (VP, Associate General Counsel)

- James Enstrom (VP, Chief Audit Executive)
- Angelo Evangelou (SVP, Chief Policy Officer)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP, Deputy General Counsel)
- Carmen Frazier Brannan (VP, Government Relations)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation Officer)
- David Gray (SVP, Global Client Services)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (EVP, Head of U.S. Equities and Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, Chief Regulatory Officer)
- Chris Isaacson (EVP, Chief Information Officer)
- Carol Kennedy (VP, Chief Communications Officer)
- Stephanie Klein (VP, Chief Marketing Officer)
- Deborah Koopman (VP, Investor Relations)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- William Looney (VP, Advancement & Strategy, Index Options)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Stephanie Marrin Lara (VP, Deputy Chief Regulatory Officer)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Paul Reidy (VP, Cboe FX COO)
- Arthur Reinstein (SVP, Deputy General Counsel)
- Bradley Samuels (VP, Systems Development)
- Curt Schumacher (VP, CTO Operations)
- Lisa Shemie (VP, Associate General Counsel)
- Jackie Hancock (VP, Controller)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (SVP, Research and Product Development)
- Paul Stephens (VP, Global Client Services)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Systems Development)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (SVP, Deputy General Counsel)
- Brian Schell (EVP, Chief Financial Officer and Treasurer)
- J. Patrick Sexton (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

CC. Cboe Livevol, LLC

1. *Name:* Cboe Livevol, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
May 29, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Livevol, LLC provides equity
and index options technology for professional and retail traders, which includes
options strategy backtesting, trade analysis and volatility modeling technologies
and historical data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Andrew Lowenthal
- John Deters
- Catherine Clay

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- John Deters (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebnow (SVP, and Chief Accounting Officer)
- Chris Isaacson (Vice President)
- Andrew Lowenthal (Vice President)
- Jackie Hancock (Vice President)
- Aaron Weissenfluh (Vice President, CISO)
- Brian Schell (Treasurer)

- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

DD. Cboe UK Limited

1. *Name:* Cboe UK Limited
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Limited Company.
3. *Name of state, statute under which organized and date of incorporation:* England and Wales, Companies Act 2006, March 10, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Marketing and business development services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors
 - Dave Gray
Current Officers
 - None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

EE. Cboe Vest, LLC

1. *Name:* Cboe Vest, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
December 10, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company of majority equity
investment in Cboe Vest Group Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
 - Chris Concannon (President)
 - Catherine Clay (Vice President)
 - John Deters (Vice President)
 - Jill Griebenow (Senior Vice President & Chief Accounting Officer)
 - Jackie Hancock (Vice President)
 - Brian Schell (Treasurer)
 - J. Patrick Sexton (Secretary)
10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

FF. Loan Markets, LLC

1. *Name:* Loan Markets, LLC
Address: 400 S. LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
May 11, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in
American Financial Exchange, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- John Deters

Current Officers

- Ed Tilly (Chief Executive Officer)
 - Chris Concannon (President)
 - John Deters (Vice President)
 - Jill Griebenow (Senior Vice President & Chief Accounting Office)
 - Andrew Lowenthal (Vice President)
 - Jackie Hancock (Vice President)
 - Brian Schell (Treasurer)
 - J. Patrick Sexton (Secretary)
10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

GG. Cboe Data Services, LLC

1. *Name:* Cboe Data Services, LLC
Address: 400 South LaSalle Street Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
February 21, 2006.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Data Services, LLC sells market
data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Eric Frait
- Bryan Harkins
- Chris Isaacson
- Jim Roche
- Curt Schumacher

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Kevin Carrai (Vice President)
- Catherine Clay (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)
- Bryan Harkins (Vice President)
- Chris Isaacson (Vice President)
- Andrew Lowenthal (Vice President)
- Jim Roche (Vice President)
- Jackie Hancock (Vice President)

- Aaron Weissenfluh (Vice President, Chief Information Security Officer)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

HH. Signal Trading Systems, LLC

1. *Name:* Signal Trading Systems, LLC
Address: 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
May 13, 2010.
4. *Brief description of nature and extent of affiliation:* Fifty percent (50%)
subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* Signal Trading Systems, LLC
developed and markets a multi-asset front-end order entry system known as
“Pulse”.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:* There are no directors or officers of
Signal Trading Systems, LLC.
10. *Indication of whether such business or organization ceased to be associated with
the applicant during previous year:* Not applicable.

II. Cboe Vest Group, Inc.

1. *Name:* Cboe Vest Group, Inc.
Address: 8300 Greensboro Drive, 8th Floor, McLean, VA 22102
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware General Corporation Law (8 Del. C. §101, et seq), January 2, 2015.
4. *Brief description of nature and extent of affiliation:* Majority-owned subsidiary of Cboe Vest, LLC.
5. *Brief description of business or functions:* Through its subsidiaries, provides options-based investment advisory services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Deters
- Karan Sood
- Catherine Clay

Current Officers

- Karan Sood (Chief Executive Officer)
- Jeffrey Chang (Chief Financial Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable

JJ. Cboe Hong Kong Limited

1. *Name:* Cboe Hong Kong Limited
Address: 66th Floor, The Center, 99 Queen's Road, Central, Hong Kong
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:* Hong Kong under the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), May 29, 2017.
4. *Brief description of nature and extent of affiliation:* Cboe Hong Kong Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Marketing and business development services (business expected to commence in September 2017).
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors
 - Dave Gray
Current Officers
 - None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

KK. Cboe Silexx, LLC

1. *Name:* Cboe Silexx, LLC
Address: 400 South LaSalle Street, Chicago, IL 60605
2. *Form of organization:* Limited Liability Company
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
October 16, 2017.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Silexx, LLC operates the Silexx
order execution management system business.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Catherine Clay (Vice President)
- John Deters (Vice President)
- James Enstrom (Vice President, Chief Audit Executive)
- Jackie Hancock (Vice President)
- Aaron Weissenfluh (Vice President, Chief Information Security Officer)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Alexandra Albright (Chief Compliance Officer)
- Todd Furney (Chief Risk Officer)
- Jennifer Golding (VP, Associate General Counsel, Chief Litigation
Officer)
- Jill Griebenow (SVP & Chief Accounting Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

LL. Digital Asset Benchmark Administration, LLC

1. *Name:* Digital Asset Benchmark Administration, LLC
Address: 400 South LaSalle Street, Chicago, IL 60605
2. *Form of organization:* Limited Liability Company
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),
October 17, 2017.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Digital Asset Benchmark
Administration, LLC licenses Gemini-related data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees
and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Brian Schell

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Mark Hemsley (Vice President)
- Catherine Clay (Vice President)
- John Deters (Vice president)
- Jackie Hancock (Vice President)
- Alexandra Albright (Chief Compliance Officer)
- James Enstrom (Vice President and Chief Audit Executive)
- Todd Furney (Chief Risk Officer)
- Aaron Weissenfluh (Vice President, CISO)
- Brian Schell (Treasurer)
- J. Patrick Sexton (Secretary)
- Jennifer Golding (Vice President, Associate General Counsel, Chief
Litigation Officer)
- Jill Griebenow (Senior Vice President & Chief Accounting Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

MM. CBOE Europe B.V.

1. *Name:* CBOE Europe B.V.
Address: 11 Monument Street, London, EC3R 8AF, United Kingdom
2. *Form of organization:* Private Company Limited by Shares
3. *Name of state, statute under which organized and date of incorporation:*
Incorporated in the United Kingdom on August 1, 2018.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Europe Limited. Cboe Europe Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* The business is very broad, encompassing the operation of a regulated market and an approved publication arrangement, and all other businesses that may be ancillary or useful for the above operations
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Mark Hemsley
- Adam Eades

Current Officers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

NN. The Options Exchange, Incorporated

1. *Name:* The Options Exchange, Incorporated
Address: 400 South LaSalle Street, Chicago, IL 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), January 7, 1974.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Not applicable.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* Not applicable.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:* None
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* As of December 31, 2018 The Options Exchange, Incorporated ceased to exist

Exhibit M

Exhibit Request:

Provide an alphabetical list of all members, participants, subscribers or other users, including the following information:

1. Name,
2. Date of election to membership or acceptance as a participant, subscriber or other user,
3. Principal business address and telephone number,
4. If member, participant, subscriber or other user is an individual, the name of the entity with which such individual is associated and the relationship of such individual to the entity (e.g., partner, officer, director, employee, etc.),
5. Describe the type of activities primarily engaged in by the member, participant, subscriber, or other user (e.g., floor broker, specialist, odd lot dealer, other market maker, proprietary trader, non-broker dealer, inactive or other functions). A person shall be "primarily engaged" in an activity or function for purposes of this item when that activity or function is the one in which that person is engaged for the majority of their time. When more than one type of person at an entity engages in any of the six types of activities or functions enumerated in this item, identify each type (e.g., proprietary trader, Registered Competitive Trader and Registered Competitive Market Maker) and state the number of members, participants, subscribers, or other users in each, and
6. The class of membership, participation or subscription or other access.

Response:

Attached please find a list of the current Members and Sponsored Participants accepted as Users of the Exchange.

| Company Name | BZX Approval Date | BYX Approval Date | EDGA Approval Date | EDGX Approval Date | CBOE Effective Date | C2 Effective Date | Type of User | Address | Phone Number | Primary Activities |
|--------------------------------------|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|--|-----------------|---|
| ABN AMRO Clearing Chicago LLC | 10/15/2008 | 10/1/2010 | 5/25/2010 | 5/27/2010 | 5/13/1985 | 9/24/2010 | Member TPH | 175 W Jackson Boulevard Suite 400 Chicago, IL 60604 | 312-604-8000 | Clearing, Transact Business with the Public, Brokerage |
| ACS Execution Services, LLC | 1/15/2016 | 1/15/2016 | 1/15/2016 | 1/15/2016 | NA | NA | Member TPH | 12 Broad Street 2nd Floor Red Bank, NJ 07701 | 732-204-8999 | Proprietary Trading |
| Agency Desk, LLC | 7/1/2009 | NA | NA | NA | NA | NA | Member TPH | 590 Madison Avenue 21st Floor New York, NY 10022 | 212-935-9835 | Market Maker |
| Akuna Securities LLC | 9/15/2015 | NA | NA | 8/14/2017 | 2/2/2012 | 2/12/2015 | Member TPH | 333 S Wabash Avenue Suite 2600 Chicago, IL 60604 | 312-994-4640 | Market Maker, Proprietary Trading |
| All Rise Trading LLC | NA | NA | NA | NA | 8/14/2018 | NA | Member TPH | 141 W. Jackson Blvd., Suite 300A, Chicago, IL 60604 | 312-483-2147 | Floor Broker |
| Alpha Direct LLC | 8/20/2015 | 8/20/2015 | 8/20/2015 | 8/20/2015 | NA | NA | Sponsored Participant | 533 2nd Street Encinitas, CA 92024 | 858-947-8650 | Proprietary Trading |
| Alpha Trading, LP | 10/24/2017 | 10/24/2017 | 10/24/2017 | 10/24/2017 | NA | NA | Member TPH | 640 W California Avenue Sunnyvale, CA 94086 | 408-990-1940 | Market Maker, Proprietary Trading |
| Alpine Securities Corporation | 11/3/2008 | 11/15/2010 | NA | NA | NA | NA | Member TPH | 39 Exchange Place Salt Lake City, UT 84111 | 801-355-5588 | Agency |
| AMS Derivatives B.V. | NA | NA | NA | NA | 12/1/2017 | NA | Member TPH | Strawinskylaan 3095 Amsterdam, 1077ZX Netherlands | 31-020-708-7000 | Proprietary Trading |
| Apex Clearing Corporation | 6/5/2012 | 6/5/2012 | 6/5/2012 | 6/5/2012 | 6/6/2012 | 6/6/2012 | Member TPH | One Dallas Center 350 N St. Paul, Suite 1300 Dallas, TX 75201 | 214-765-1055 | Clearing, Transact Business with the Public |
| Archipelago Securities LLC | 8/18/2008 | 9/1/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 353 N Clark Street Suite 3200 Chicago, IL 60654 | 312-836-6700 | Limited Routing Facility of ICE affiliated Exchanges |
| Athena Capital Research, LLC | 7/1/2009 | 10/20/2010 | NA | NA | NA | NA | Sponsored Participant | 440 9th Avenue 11th Floor New York, NY 10001 | 212-931-9056 | Proprietary Trading |
| ATM Execution LLC | 3/15/2012 | 3/15/2012 | 3/21/2012 | 3/21/2012 | NA | NA | Member TPH | 599 Lexington Avenue 21st Floor New York, NY 10022 | 646-562-1010 | Public Customer Business |
| Barclays Capital Inc. | 8/18/2008 | 10/1/2010 | 5/14/2010 | 5/14/2010 | 9/22/2008 | 10/6/2010 | Member TPH | 745 7th Avenue New York, NY 10019 | 212-526-7000 | Clearing, Market Maker, Transact Business with the Public, Brokerage, Proprietary Trading |
| Bay Crest Partners, LLC | 10/15/2008 | NA | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 40 Wall Street 42nd Floor New York, NY 10005 | 212-480-1400 | Agency |
| Belvedere Trading LLC | 11/1/2011 | 3/1/2012 | 11/29/2011 | 10/16/2018 | 1/3/2005 | 4/4/2011 | Member TPH | 10 S Riverside Plaza Suite 2100 Chicago, IL 60606 | 312-893-3750 | Market Maker, Proprietary Trading |
| Benjamin & Jerold Brokerage I LLC | 10/1/2009 | 12/11/2017 | 12/11/2017 | 12/11/2017 | NA | NA | Member TPH | 80 Broad Street 6th Floor New York, NY 10005 | 646-558-0055 | Agency |
| BGC Financial, LP | 8/17/2009 | NA | NA | NA | NA | NA | Member TPH | One Seaport Plaza 19th Floor New York, NY 10038 | 646-346-7000 | Agency |
| Bloomberg Tradebook LLC | 10/23/2008 | 10/4/2010 | 5/14/2010 | 5/14/2010 | NA | NA | Member TPH | 919 3rd Avenue New York, NY 10022 | 646-324-3178 | Agency |
| Bluefin Trading, LLC | 8/3/2009 | 6/1/2015 | 9/27/2013 | 8/13/2013 | 4/27/2009 | NA | Member TPH | 3 Park Avenue 37th Floor New York, NY 10016 | 212-457-9150 | Market Maker, Proprietary Trading |
| BMO Capital Markets Corp. | 8/18/2008 | 11/15/2010 | 7/15/2014 | 7/15/2014 | 10/8/2013 | 11/15/2013 | Member TPH | 3 Times Square New York, NY 10036 | 212-885-4000 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| BMT Trading, LLC | 2/1/2010 | NA | NA | NA | NA | NA | Sponsored Participant | 800 3rd Avenue New York, NY 10022 | 212-813-0870 | Proprietary Trading |
| BNP Paribas Securities Corp. | 8/18/2008 | 9/15/2010 | 5/25/2010 | 5/27/2010 | 1/5/2005 | 10/15/2010 | Member TPH | 787 7th Avenue New York, NY 10019 | 212-841-2000 | Clearing, Order Flow Provider, Proprietary Trading, Transact Business with the Public |
| BNY Mellon Capital Markets, LLC | NA | NA | NA | 1/17/2017 | NA | NA | Member TPH | 101 Barclay Street New York, NY 10286 | 212-815-4972 | Market Maker |
| Boerboel Capital LLC | 11/17/2017 | NA | NA | NA | 2/1/2017 | NA | Member TPH | 300 N LaSalle Street Suite 2080 Chicago, IL 60654 | 708-967-6843 | Market Maker |
| Boerboel Trading LP | 10/15/2018 | 10/15/2018 | 10/15/2018 | 10/15/2018 | NA | NA | Sponsored Participant | Maples Corporate Services PO Box 309, Ugland House Cayman Islands KY1-1104 | ##### | Proprietary Trading |
| BofAML Securities, Inc. | 9/19/2018 | 9/19/2018 | 9/19/2018 | 9/19/2018 | NA | NA | Member TPH | One Bryant Park New York, NY 10036 | 201-671-5685 | Clearing Services, Firm Proprietary Trading, Public Customer Business |
| BTIG, LLC | 8/18/2008 | 11/15/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 600 Montgomery Street 6th Floor San Francisco, CA 94111 | 415-248-2200 | Market Maker |
| C&C Trading LLC | 8/18/2008 | 10/11/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 71 Arch Street 1st Floor Greenwich, CT 06830 | 212-706-1227 | Proprietary Trading |
| Canaccord Genuity LLC | 10/1/2013 | 10/1/2013 | 6/10/2010 | 6/10/2010 | NA | NA | Member TPH | 535 Madison Avenue New York, NY 10022 | 212-389-8000 | Market Maker |
| Canadian Imperial Holdings, Inc. | 10/15/2008 | 11/15/2010 | NA | NA | NA | NA | Sponsored Participant | 300 Madison Avenue 5th Floor New York, NY 10017 | 212-856-3877 | Proprietary Trading |
| Cantor Fitzgerald & Co. | 10/23/2008 | 2/13/2015 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 110 E 59th Street 4th Floor New York, NY 10022 | 212-938-5000 | Agency, Institutional Trading |
| Capital Institutional Services, Inc. | 8/18/2008 | NA | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 1700 Pacific Avenue Suite 1100 Dallas, TX 75201 | 214-720-0055 | Agency |
| Cardinal Capital Management, LLC | NA | NA | NA | NA | 10/1/2007 | NA | Member TPH | 141 W Jackson Boulevard Suite 2200A Chicago, IL 60604 | 312-477-8400 | Market Maker |
| Cboe Trading, Inc. | 10/23/2008 | 9/1/2010 | 5/14/2010 | 5/14/2010 | NA | 4/18/2018 | Member TPH | 8050 Marshall Drive Suite 120 Lenexa, KS 66214 | 913-815-7000 | Limited Routing Facility of Cboe affiliated Exchanges |
| CF Global Trading, LLC | 10/23/2008 | 1/3/2011 | NA | NA | NA | NA | Member TPH | 60 E 42nd Street Suite 1455 New York, NY 10165 | 212-888-4711 | Market Maker |
| Charles Schwab & Co., Inc. | NA | NA | NA | 4/3/2017 | 6/2/1980 | NA | Member TPH | 211 Main Street San Francisco, CA 94105 | 415-636-7000 | Clearing, Transact Business with the Public |
| Chimera Securities, LLC | 6/2/2014 | 6/2/2014 | 6/25/2014 | 6/25/2014 | NA | NA | Member TPH | 27 Union Square W 4th Floor New York, NY 10003 | 646-597-6100 | Proprietary Trading |
| Chimera Securities, LLC | 11/17/2017 | 11/27/2017 | 11/27/2017 | 11/17/2017 | NA | NA | Sponsored Participant | 27 Union Square W 4th Floor New York, NY 10003 | 646-597-6100 | Proprietary Trading |
| CIBC World Markets Corp. | 8/18/2008 | 11/15/2010 | NA | NA | 2/14/1973 | NA | Member TPH | 425 Lexington Avenue New York, NY 10017 | 212-856-4000 | Clearing, Transact Business with the Public |

| Company Name | BZX Approval Date | BYX Approval Date | EDGA Approval Date | EDGX Approval Date | CBOE Effective Date | C2 Effective Date | Type of User | Address | Phone Number | Primary Activities |
|---|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|---|--------------|---|
| Citadel Securities LLC | 10/23/2008 | 10/1/2010 | 5/14/2010 | 5/14/2010 | 4/17/2002 | 10/7/2010 | Member TPH | 131 S Dearborn Street 32nd Floor Chicago, IL 60603 | 312-395-2100 | Market Maker, Order Flow Provider, Brokerage |
| Citi Order Routing and Execution, LLC | 8/18/2008 | 9/15/2010 | 5/25/2010 | 5/27/2010 | 10/1/2008 | 9/24/2010 | Member TPH | 11 Ewall Street Mount Pleasant, SC 29464 | 843-789-2080 | Clearing, Transact Business with the Public |
| Citigroup Derivatives Markets Inc. | 2/15/2018 | NA | NA | 2/15/2018 | 12/3/2004 | 2/25/2011 | Member TPH | 130 Cheshire Lane Suite 102 Minnetonka, MN 55305 | 212-723-2960 | Market Maker |
| Citigroup Global Markets Inc. | 9/24/2008 | 12/15/2010 | 5/25/2010 | 5/27/2010 | 5/2/2011 | NA | Member TPH | 390-388 Greenwich Street New York, NY 10013 | 212-816-6000 | Clearing, Proprietary Trading, Transact Business with the Public |
| Clarksons Platou Securities, Inc. | NA | NA | 1/15/2015 | NA | NA | NA | Member TPH | 280 Park Avenue 21st Floor New York, NY 10017 | 212-317-7080 | Public Customer Business |
| Clearpool Execution Services, LLC | 5/15/2014 | 5/15/2014 | 6/16/2014 | 6/16/2014 | NA | NA | Member TPH | 17 State Street 38th Floor New York, NY 10004 | 212-531-8500 | Public Customer Business |
| CLSA Americas, LLC | NA | NA | 5/21/2013 | 5/21/2013 | NA | NA | Member TPH | 1301 Avenue of the Americas 15th Floor New York, NY 10019 | 212-549-5097 | Agency |
| CM-CIC Market Solutions, Inc. | 8/18/2008 | NA | NA | NA | NA | NA | Member TPH | 520 Madison Avenue New York, NY 10022 | 212-659-6292 | Agency |
| CMT Fund XXV Limited | 7/2/2012 | 7/2/2012 | NA | NA | NA | NA | Sponsored Participant | 500 W Monroe Street Suite 2630 Chicago, IL 60661 | 312-320-7897 | Agency |
| CMT Trading LLC | 3/17/2014 | 3/17/2014 | 3/5/2014 | 3/5/2014 | NA | NA | Member TPH | 500 W Monroe Street Suite 2630 Chicago, IL 60661 | 312-930-9050 | Market Maker, Proprietary Trading |
| CMZ Trading, LLC | NA | NA | NA | NA | 10/1/2004 | NA | Member TPH | 141 W Jackson Boulevard Suite 826 Chicago, IL 60604 | 312-604-3310 | Market Maker, Proprietary Trading |
| CODA Markets, Inc. | 10/15/2008 | 10/4/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 2624 Patriot Boulevard Glenview, IL 60026 | 224-521-2700 | ATS |
| Cognitive Capital, LLC | NA | NA | NA | NA | 5/13/2004 | NA | Member TPH | 141 W Jackson Boulevard Suite 1620 Chicago, IL 60604 | 312-431-0400 | Proprietary Trading |
| Comhar Capital Markets, LLC | 2/27/2017 | NA | NA | NA | NA | NA | Member TPH | 311 S Wacker Drive Suite 2280A Chicago, IL 60606 | 872-205-0190 | Proprietary Trading |
| Consolidated Trading, LLC | NA | NA | NA | NA | 1/2/2002 | NA | Member TPH | 71 S Wacker Drive Suite 2300 Chicago, IL 60606 | 312-360-7300 | Market Maker |
| COR Clearing LLC | 10/15/2009 | NA | NA | NA | NA | NA | Member TPH | 1200 Landmark Center 1299 Farnam Street Suite 800 Omaha, NE 68102 | 402-384-6100 | Clearing Services |
| Cowen and Company, LLC | 8/18/2008 | 10/7/2010 | 5/14/2010 | 5/14/2010 | NA | NA | Member TPH | 599 Lexington Avenue 20th Floor New York, NY 10022 | 646-562-1010 | Market Maker |
| Cowen Execution Services LLC | 10/15/2008 | 9/1/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 1633 Broadway 48th Floor New York, NY 10019 | 800-367-8998 | Full Service |
| Cowen Prime Services LLC | 3/15/2011 | 3/15/2011 | NA | NA | NA | NA | Member TPH | 599 Lexington Avenue 21st Floor New York, NY 10022 | 646-562-1010 | Public Customer Business, Proprietary Trading |
| Credit Suisse Securities (USA) LLC | 9/3/2008 | 10/1/2010 | 5/25/2010 | 5/27/2010 | 8/14/1981 | 10/8/2010 | Member TPH | 11 Madison Avenue New York, NY 10010 | 212-325-2000 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| Critical Trading, LLC | 7/1/2014 | 6/8/2018 | NA | 6/8/2018 | NA | NA | Member TPH | 120 W 45th Street 15th Floor New York, NY 10036 | 646-918-0529 | Market Maker, Proprietary Trading |
| CSS, LLC | NA | NA | NA | NA | 8/21/1998 | NA | Member TPH | 175 W Jackson Boulevard Suite 440 Chicago, IL 60604 | 312-542-8505 | Proprietary Trading |
| CTC, LLC | 3/15/2018 | NA | NA | NA | 3/25/1998 | 3/3/2011 | Member TPH | 440 S LaSalle Street 4th Floor Chicago, IL 60605 | 312-863-8000 | Market Maker |
| Cutler Group, LP | 4/1/2010 | 10/6/2010 | NA | 10/16/2015 | 4/5/1999 | 9/4/2018 | Member TPH | 101 Montgomery Street Suite 700 San Francisco, CA 94104 | 415-293-3956 | Market Maker, Proprietary Trading |
| Dash Financial Technologies LLC | 10/23/2008 | 7/2/2012 | 6/9/2010 | 6/9/2010 | 5/19/2000 | 9/30/2010 | Member TPH | 311 S Wacker Drive Suite 1000 Chicago, IL 60606 | 312-988-2006 | Clearing, Floor Broker, Order Flow Provider, Transact Business with the Public, Brokerage |
| Deutsche Bank Securities Inc. | 10/15/2008 | 10/1/2010 | 5/21/2010 | 5/21/2010 | 4/25/1996 | 8/15/2011 | Member TPH | 60 Wall Street New York, NY 10005 | 212-250-2500 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| DRW Securities, LLC | 9/1/2009 | 11/1/2010 | 5/25/2010 | 5/27/2010 | 11/23/1998 | 1/22/2016 | Member TPH | 540 W Madison Street Suite 2500 Chicago, IL 60661 | 312-542-1000 | Market Maker, Proprietary Trading |
| DRW Singapore Ltd. | 11/19/2018 | NA | NA | 11/19/2018 | NA | NA | Sponsored Participant | 8 Marina View Asia Square Tower 1 #32-05 Singapore 018960 | 312-542-1005 | Proprietary Trading |
| Dynamic Technology Lab Pte. Ltd. | 11/5/2018 | 11/5/2018 | 11/5/2018 | 11/5/2018 | NA | NA | Sponsored Participant | 07-00, 178 Clemenceau Avenue Singapore 239926 | 656-610-4693 | Proprietary Trading |
| E*TRADE Securities LLC | NA | NA | NA | 6/10/2010 | NA | NA | Member TPH | 11 Times Square 32nd Floor New York, NY 10036 | 646-521-4300 | Public Customer Business |
| EG Market Technologies LLC | 4/3/2017 | 4/3/2017 | 4/3/2017 | 4/3/2017 | NA | NA | Member TPH | 767 5th Avenue 45th Floor New York, NY 10153 | 646-757-2831 | Market Maker, Proprietary Trading |
| Electronic Transaction Clearing, Inc. | 10/23/2008 | 9/1/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 660 S Figueroa Street Los Angeles, CA 90017 | 949-533-1885 | Market Maker |
| Essex Radez LLC | NA | 10/1/2010 | NA | NA | NA | NA | Member TPH | 440 S LaSalle Street Suite 1111 Chicago, IL 60605 | 312-212-1815 | Market Maker |
| Evercore Group LLC | NA | NA | 5/10/2017 | NA | NA | NA | Member TPH | 55 E 52nd Street New York, NY 10055 | 212-857-3100 | Public Customer Business |
| FIS Brokerage & Securities Services LLC | 8/18/2008 | 10/1/2010 | 5/6/2010 | 5/6/2010 | NA | NA | Member TPH | 2100 Enterprise Avenue Geneva, IL 60134 | 630-482-7100 | Agency |
| Flow Traders U.S. Institutional Trading LLC | NA | NA | 6/1/2016 | NA | NA | NA | Member TPH | 1114 Avenue of the Americas 4th Floor New York, NY 10036 | 917-210-5000 | Riskless Principal |
| Flow Traders U.S. LLC | 10/1/2009 | 8/1/2012 | 2/28/2014 | 2/28/2014 | 8/31/2010 | NA | Member TPH | 1114 Avenue of the Americas 4th Floor New York, NY 10036 | 917-210-5000 | Proprietary Trading |
| G1 Execution Services, LLC | 8/18/2008 | 12/1/2010 | 4/17/2010 | 4/17/2010 | NA | NA | Member TPH | 175 W Jackson Boulevard Suite 1700 Chicago, IL 60604 | 312-362-0404 | Market Maker |
| G2 Trading LLC | 6/1/2016 | NA | NA | NA | NA | NA | Member TPH | 325 S Sangamon Street Chicago, IL 60607 | 404-697-9915 | Market Maker, Proprietary Trading |
| Gelber Securities, LLC | 5/1/2015 | NA | NA | NA | NA | NA | Member TPH | 350 N Orleans Street 7th Floor Chicago, IL 60654 | 312-408-4354 | Market Maker, Proprietary Trading |

| Company Name | 8ZX Approval Date | BYX Approval Date | EDGA Approval Date | EDGX Approval Date | CBOE Effective Date | C2 Effective Date | Type of User | Address | Phone Number | Primary Activities |
|--|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|--|--------------|---|
| Geneva Stock, LLC | NA | NA | NA | NA | 4/6/2001 | NA | Member TPH | 440 S LaSalle Street Suite 1711 Chicago, IL 60605 | 312-362-4404 | Market Maker |
| Global Execution Brokers, LP | 2/1/2010 | 10/5/2010 | 12/1/2015 | 10/15/2015 | 12/23/2003 | 9/24/2010 | Member TPH | 401 City Avenue Bala Cynwyd, PA 19004 | 610-617-2600 | Floor Broker, Transact Business with the Public, Brokerage |
| Global HFT Management, LLC | 10/1/2010 | NA | NA | NA | NA | NA | Sponsored Participant | 800 3rd Avenue New York, NY 10022 | 212-813-0870 | Proprietary Trading |
| Global Liquidity Partners, LLC | 4/21/2011 | 5/15/2012 | NA | NA | NA | NA | Sponsored Participant | 12 Broad Street Suite 201 Redbank, NJ 07701 | 773-459-4665 | Agency |
| Goldman Sachs & Co. LLC | 10/23/2008 | 10/12/2010 | 5/14/2010 | 5/14/2010 | 2/21/1973 | 10/8/2010 | Member TPH | 200 West Street New York, NY 10282 | 212-902-1000 | Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage |
| Gordon, Haskett Capital Corporation | NA | NA | NA | 5/2/2016 | NA | NA | Member TPH | 441 Lexington Avenue 10th Floor New York, NY 10017 | 212-883-0600 | Agency, Institutional Trading |
| Green Street Trading, LLC | 11/1/2011 | NA | NA | NA | NA | NA | Member TPH | 660 Newport Center Drive Suite 800 Newport Beach, CA 92660 | 214-749-4730 | Agency |
| Group One Trading, LP | 6/2/2015 | NA | NA | 9/29/2015 | 11/23/1994 | NA | Member TPH | 440 S LaSalle Street Suite 3232 Chicago, IL 60605 | 312-347-8864 | Market Maker |
| GTS Securities LLC | 12/17/2013 | 5/1/2012 | 6/2/2014 | 6/2/2014 | NA | NA | Member TPH | 545 Madison Avenue 15th Floor New York, NY 10022 | 212-715-2830 | Market Maker, Proprietary Trading |
| Hailey Investments Limited | 6/16/2014 | NA | NA | NA | NA | NA | Sponsored Participant | Thermistoki Deri 41 #806-807 Nicosia, Cyprus | 704-248-8221 | Proprietary Trading |
| HAP Trading, LLC | 10/1/2009 | 11/15/2010 | NA | 6/2/2010 | 3/16/2001 | NA | Member TPH | 395 Hudson Street Suite 701 New York, NY 10014 | 212-380-5100 | Market Maker, Proprietary Trading |
| Hardcastle Trading USA LLC | 4/15/2009 | NA | 5/25/2010 | 5/27/2010 | 5/16/2005 | NA | Member TPH | 755 Secaucus Road Suite F-1110 Secaucus, NJ 07094 | 201-305-8888 | Proprietary Trading |
| Headlands Technologies LLC | 10/15/2018 | 10/15/2018 | 10/15/2018 | 10/15/2018 | NA | NA | Sponsored Participant | 155 N. Wacker Drive, Suite 1900 Chicago, IL 60606 | 312-601-8649 | Proprietary Trading |
| Hehmeyer, LLC | 10/3/2016 | 10/3/2016 | 10/3/2016 | 10/3/2016 | NA | NA | Sponsored Participant | 601 S LaSalle Street 2nd Floor Chicago, IL 60605 | 312-327-4112 | Proprietary Trading |
| Henning-Carey Proprietary Trading, LLC | 8/15/2012 | NA | NA | NA | NA | NA | Sponsored Participant | 141 W Jackson Boulevard Suite 1801 Chicago, IL 60604 | 312-789-8764 | Proprietary Trading |
| Highbridge Capital Management, LLC | 10/23/2008 | NA | NA | NA | NA | NA | Sponsored Participant | 9 West 57th Street 27th Floor New York, NY 10019 | 212-287-4900 | Proprietary Trading |
| Hilltop Securities Inc. | 10/23/2008 | 9/1/2010 | NA | 5/21/2013 | 10/1/2010 | NA | Member TPH | 1201 Elm Street Suite 3500 Dallas, TX 75270 | 214-859-1800 | Clearing, Transact Business with the Public |
| HRT Execution Services LLC | 8/18/2008 | 10/1/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 100 S Wacker Drive Suite 300 Chicago, IL 60606 | 312-924-4777 | Market Maker, Proprietary Trading |
| HRT Financial LLC | 2/1/2010 | 10/1/2010 | 5/18/2010 | 5/18/2010 | 1/24/2011 | 1/24/2011 | Member TPH | 4 World Trade Center 150 Greenwich Street, 57th Floor New York, NY 10007 | 212-293-1444 | Proprietary Trading |
| HSBC Securities (USA) Inc. | 4/3/2017 | 4/3/2017 | 4/3/2017 | 4/3/2017 | 11/21/2005 | NA | Member TPH | 452 Fifth Avenue New York, NY 10018 | 224-880-7116 | Clearing, Transact Business with the Public |
| ICAP Corporates LLC | NA | NA | 3/28/2013 | NA | NA | NA | Member TPH | Harborside 5 Hudson Street, Suite 1200 Jersey City, NJ 07311 | 212-341-9944 | Agency |
| IEX Services LLC | 10/1/2013 | 10/1/2013 | 9/24/2013 | 9/24/2013 | NA | NA | Member TPH | 4 World Trade Center 44th Floor New York, NY 10007 | 646-343-2000 | Limited Routing Facility of IEX affiliated Exchanges |
| IMC-Chicago LLC dba IMC Financial Markets | 8/18/2008 | 10/1/2010 | 5/25/2010 | 5/27/2010 | 7/5/2000 | 9/24/2010 | Member TPH | 233 S Wacker Drive Suite 4300 Chicago, IL 60606 | 312-244-3300 | Market Maker, Proprietary Trading |
| IMC-Chicago LLC dba IMC Financial Markets | 11/5/2018 | 11/5/2018 | 11/5/2018 | 11/5/2018 | NA | NA | Sponsored Participant | 233 S Wacker Drive Suite 4300 Chicago, IL 60606 | 312-244-3300 | Market Maker, Proprietary Trading |
| Industrial and Commercial Bank of China Financial Services LLC | 5/15/2014 | 5/15/2014 | NA | NA | NA | NA | Member TPH | 1633 Broadway 28th Floor New York, NY 10019 | 212-993-7300 | Clearing Services |
| Instinet LLC | 8/18/2008 | 9/1/2010 | 5/14/2010 | 5/14/2010 | 12/29/2009 | 10/6/2010 | Member TPH | Worldwide Plaza 309 W 49th Street New York, NY 10019 | 212-310-9500 | Clearing, Transact Business with the Public, Brokerage |
| Interactive Brokers Corp. | NA | NA | NA | NA | 4/21/2009 | 10/6/2010 | Member TPH | 8 Greenwich Office Park Greenwich, CT 06831 | 203-618-5700 | Floor Broker, Brokerage |
| Interactive Brokers LLC | 8/18/2008 | 9/15/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | One Pickwick Plaza 2nd Floor Greenwich, CT 06830 | 203-618-5710 | Full Service |
| International Correspondent Trading, Inc. | 8/18/2008 | NA | NA | NA | NA | NA | Member TPH | One University Plaza Suite 301 Hackensack, NJ 07601 | 201-222-9300 | Agency |
| Israel A. Englander & Co., LLC | NA | NA | NA | NA | 10/27/1995 | 9/24/2010 | Member TPH | 688 5th Avenue 14th Floor New York, NY 10103 | 212-841-4567 | Floor Broker, Transact Business with the Public, Brokerage |
| ISTRA, LLC | 12/15/2011 | 12/15/2011 | NA | NA | NA | NA | Sponsored Participant | 230 Park Avenue 10th Floor New York, NY 10169 | 718-618-4929 | Proprietary Trading |
| ITG Inc. | 8/18/2008 | 10/1/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | One Liberty Plaza 165 Broadway, 4th Floor New York, NY 10006 | 212-588-4000 | Agency |
| J.P. Morgan Securities LLC | 8/18/2008 | 9/15/2010 | 5/14/2010 | 5/14/2010 | 10/29/1985 | 11/18/2010 | Member TPH | 383 Madison Avenue New York, NY 10179 | 212-272-2000 | Clearing, Transact Business with the Public |
| Jane Street Capital, LLC | 5/1/2009 | 11/15/2010 | 5/14/2010 | 5/14/2010 | 9/4/2012 | 1/2/2019 | Member TPH | 250 Vesey Street 5th Floor New York, NY 10281 | 646-759-6000 | Market Maker, Proprietary Trading |
| Jane Street Options, LLC | 4/15/2016 | NA | NA | 11/9/2018 | 5/2/2005 | 1/2/2019 | Member TPH | 250 Vesey Street 5th Floor New York, NY 10281 | 646-759-6000 | Market Maker |
| Jefferies Investment Advisers | 7/1/2011 | 7/15/2011 | NA | NA | NA | NA | Sponsored Participant | 520 Madison Avenue New York, NY 10022 | 212-323-3993 | Full Service |
| Jefferies LLC | 10/23/2008 | 10/19/2010 | 5/25/2010 | 5/27/2010 | 7/9/2012 | 7/18/2012 | Member TPH | 520 Madison Avenue New York, NY 10022 | 212-284-2300 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| JNK Securities Corp. | 11/17/2008 | 11/15/2010 | NA | NA | NA | NA | Member TPH | 140 E 45th Street 27th Floor New York, NY 10017 | 212-885-6300 | Agency |
| Juliet Group, LLC | 3/1/2011 | 3/1/2011 | NA | NA | NA | NA | Sponsored Participant | 240 E 35th Street #3A New York, NY 10016 | 646-360-0595 | Proprietary Trading |
| Juliet Labs, LLC | 9/20/2017 | 9/20/2017 | 9/20/2017 | 9/20/2017 | NA | NA | Sponsored Participant | 1 Northside Piers Suite 14H Brooklyn, NY 11249 | 646-360-0595 | Proprietary Trading |

| Company Name | BZX Approval Date | BYX Approval Date | EDGA Approval Date | EDGX Approval Date | CBOE Effective Date | C2 Effective Date | Type of User | Address | Phone Number | Primary Activities |
|--|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|--|--------------|---|
| Jump Trading, LLC | 8/18/2008 | 10/1/2010 | 5/14/2010 | 5/14/2010 | 4/2/2012 | 6/6/2017 | Member TPH | 600 W Chicago Avenue Suite 825 Chicago, IL 60654 | 312-205-8900 | Market Maker, Proprietary Trading |
| Keefe, Bruyette & Woods, Inc. | 8/18/2008 | 12/1/2010 | 6/8/2010 | 6/8/2010 | NA | NA | Member TPH | 787 7th Avenue New York, NY 10019 | 212-887-7777 | Agency |
| Lakeshore Securities, LP | NA | NA | NA | NA | 1/24/1983 | NA | Member TPH | 401 S LaSalle Street Suite 1000 Chicago, IL 60605 | 312-663-1307 | Clearing, Floor Broker, Market Maker, Transact Business with the Public |
| Lamberson Capital LLC | NA | NA | NA | NA | 3/23/2016 | NA | Member TPH | 71 S Wacker Drive Suite 2300 Chicago, IL 60606 | 312-360-7300 | Market Maker |
| Lampert Capital Markets Inc. | NA | 2/18/2014 | 2/26/2014 | NA | NA | NA | Member TPH | 444 Madison Avenue Suite 401 New York, NY 10022 | 646-833-4900 | Introducing Broker |
| Lamport Capital, LC | NA | NA | NA | 3/15/2016 | NA | NA | Member TPH | 1900 Glades Road Suite 205 Boca Raton, FL 33431 | 561-883-0454 | Public Customer Business, Proprietary Trading |
| Latour Trading LLC | 8/17/2009 | 10/1/2010 | 5/26/2010 | 5/27/2010 | 4/8/2011 | NA | Member TPH | 377 Broadway 10th Floor New York, NY 10013 | 917-388-8000 | Proprietary Trading |
| Leerink Partners LLC | 8/18/2008 | 10/5/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 1 Federal Street 37th Floor Boston, MA 02110 | 617-918-4900 | Agency |
| LEK Securities Corporation | 8/18/2008 | 10/1/2010 | 5/26/2010 | 5/27/2010 | 1/9/2001 | 9/24/2010 | Member TPH | 1 Liberty Plaza 165 Broadway, 52nd Floor New York, NY 10006 | 212-509-2300 | Clearing, Transact Business with the Public |
| Lime Brokerage LLC | 8/18/2008 | 10/1/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 11 E 44th Street Suite 705 New York, NY 10017 | 212-824-5000 | Transact Business with the Public |
| Liquidnet, Inc. | 9/1/2009 | 9/15/2010 | NA | NA | NA | NA | Member TPH | 498 7th Avenue 15th Floor New York, NY 10018 | 646-674-2000 | Agency |
| Lupo Securities, LLC | NA | NA | NA | NA | 8/1/1997 | NA | Member TPH | 141 W Jackson Boulevard Suite 2200A Chicago, IL 60604 | 312-477-8400 | Market Maker, Proprietary Trading |
| Macquarie Capital (USA) Inc. | 12/1/2009 | NA | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 125 W 55th Street Level 22 New York, NY 10019 | 212-231-1000 | Agency |
| Marathon Trading Group LLC | 2/13/2015 | NA | NA | NA | 1/30/2013 | NA | Member TPH | 100 Matsonford Road Building 2, Suite 107 Wayne, PA 19087 | 610-254-4890 | Market Maker, Proprietary Trading |
| Matrix Executions, LLC | 8/18/2008 | 11/15/2010 | NA | 11/12/2015 | 2/1/2008 | 10/26/2010 | Member TPH | 601 S LaSalle Street Suite 300 Chicago, IL 60605 | 312-334-8000 | Transact Business with the Public, Brokerage |
| Merrill Lynch Professional Clearing Corp. | 8/18/2008 | 10/5/2010 | 5/14/2010 | 5/14/2010 | 4/8/1985 | 9/24/2010 | Member TPH | One Bryant Park, 6th Floor NY-100-06-01 New York, NY 10036 | 646-743-1295 | Clearing, Brokerage, Transact Business with the Public |
| Merrill Lynch, Pierce, Fenner & Smith Incorporated | 8/18/2008 | 10/4/2010 | 5/14/2010 | 5/14/2010 | 4/25/1973 | 9/27/2010 | Member TPH | One Bryant Park New York, NY 10036 | 800-637-7455 | Clearing, Transact Business with the Public, Brokerage, Market Maker, Proprietary Trading |
| Mint Global Markets, Inc. | NA | NA | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 1717 Route 6 Suite 102 Carmel, NY 10512 | 800-874-3039 | Agency |
| Mizuho Securities USA, LLC | 6/1/2010 | 1/3/2011 | NA | NA | NA | NA | Member TPH | 320 Park Avenue 12th Floor New York, NY 10022 | 212-209-9300 | Agency |
| MKM Partners LLC | 8/3/2009 | NA | 5/14/2010 | 5/14/2010 | NA | NA | Member TPH | 300 First Stamford Place 4th Floor East Wing Stamford, CT 06902 | 203-861-9060 | Agency |
| Monadnock Capital Management, LP | NA | NA | NA | NA | 12/1/2014 | NA | Member TPH | 1845 Walnut Street Suite 940 Philadelphia, PA 19103 | 267-239-0367 | Market Maker |
| Moors & Cabot, Inc. | NA | 4/2/2012 | NA | NA | NA | NA | Member TPH | 111 Devonshire Street Boston, MA 02109 | 617-426-0500 | Agency |
| Morgan Stanley & Co. International plc | NA | NA | NA | NA | 4/12/2017 | NA | Sponsored Participant | 20 Bank Street Canary Wharf London, UK E14 4A | ##### | |
| Morgan Stanley & Co. LLC | 10/23/2008 | 9/1/2010 | 5/14/2010 | 5/14/2010 | 8/20/1980 | 9/24/2010 | Member TPH | 1585 Broadway New York, NY 10036 | 212-761-4000 | Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage |
| Nasdaq Execution Services, LLC | 8/19/2008 | 9/1/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | One Liberty Plaza 165 Broadway New York, NY 10006 | 212-231-5100 | Limited Routing Facility of Nasdaq affiliated Exchanges |
| National Financial Services LLC | 10/23/2008 | 10/4/2010 | 5/26/2010 | 5/27/2010 | 10/8/1987 | 4/16/2012 | Member TPH | 200 Seaport Boulevard Boston, MA 02210 | 617-563-7000 | Clearing, Floor Broker, Transact Business with the Public |
| National Securities Corporation | 7/1/2009 | NA | NA | NA | NA | NA | Member TPH | One Union Square 600 University Street, Suite 2900 Seattle, WA 98101 | 206-622-7200 | Agency |
| Needham & Company, LLC | 10/23/2008 | 10/1/2010 | NA | NA | NA | NA | Member TPH | 445 Park Avenue New York, NY 10022 | 212-371-8300 | Market Maker |
| Nomura Securities International, Inc. | 10/23/2008 | 10/1/2010 | 5/26/2010 | 5/27/2010 | 9/1/2009 | 11/16/2010 | Member TPH | Worldwide Plaza 309 W 49th Street New York, NY 10019 | 212-667-9000 | Clearing, Transact Business with the Public, Proprietary Trading |
| Northern Trust Securities, Inc. | 8/18/2008 | 10/5/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 50 S LaSalle Street Chicago, IL 60603 | 312-557-2000 | Market Maker |
| Northland Securities, Inc. | 12/15/2010 | 12/15/2010 | NA | NA | NA | NA | Member TPH | 45 S 7th Street 20th Floor Minneapolis, MN 55402 | 612-851-5900 | Market Maker, Proprietary Trading |
| Old Mission Capital, LLC | 4/16/2012 | 4/16/2012 | 4/25/2012 | 4/25/2012 | 9/27/2017 | NA | Member TPH | 314 W Superior Suite 200 Chicago, IL 60654 | 312-260-3031 | Market Maker |
| Olivetree Financial, LLC | NA | NA | 9/1/2016 | NA | NA | NA | Member TPH | 420 Lexington Avenue Suite 800 New York, NY 10170 | 646-930-6600 | Agency |
| Oppenheimer & Co. Inc. | NA | NA | NA | NA | 5/17/1973 | NA | Member TPH | 85 Broad Street 22nd, 24th Floors New York, NY 10004 | 212-668-8000 | Clearing, Transact Business with the Public |
| Optiver US, LLC | 6/15/2009 | NA | NA | 5/30/2018 | 6/1/2005 | 9/24/2010 | Member TPH | 130 E Randolph Street 14th Floor Chicago, IL 60601 | 312-821-9500 | Market Maker |
| Oscar Gruss & Son Incorporated | 8/7/2017 | NA | NA | NA | NA | NA | Member TPH | 430 Park Avenue 6th Floor New York, NY 10022 | 212-419-4000 | Agency |
| OTA LLC | 8/18/2008 | 10/7/2010 | NA | NA | NA | NA | Member TPH | One Manhattanville Road Purchase, NY 10577 | 914-694-5800 | Institutional Trading |
| PEAK6 Capital Management LLC | 8/1/2014 | NA | NA | 2/1/2016 | 12/2/1997 | NA | Member TPH | 141 W Jackson Boulevard Suite 500 Chicago, IL 60604 | 312-444-8000 | Proprietary Trading |
| PEAK6 Capital Management, LLC | 11/3/2008 | 7/15/2011 | NA | NA | NA | NA | Sponsored Participant | 141 W Jackson Boulevard Suite 500 Chicago, IL 60604 | 312-362-2401 | Market Maker |
| Penserra Securities, LLC | 8/18/2008 | 10/6/2010 | NA | NA | NA | NA | Member TPH | 4 Orinda Way Suite 100-A Orinda, CA 94563 | 212-607-3190 | Agency |

| Company Name | BZX Approval Date | BYX Approval Date | EDGA Approval Date | EDGX Approval Date | CBOE Effective Date | C2 Effective Date | Type of User | Address | Phone Number | Primary Activities |
|--|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|---|--------------|---|
| Pershing LLC | 8/18/2008 | 9/15/2010 | 5/26/2010 | 5/27/2010 | 2/21/1973 | 9/28/2010 | Member TPH | One Pershing Plaza Jersey City, NJ 07399 | 201-413-2000 | Clearing, Transact Business with the Public |
| Phillip Capital Inc. | NA | NA | NA | 11/27/2017 | NA | NA | Member TPH | 141 W Jackson Boulevard Suite 3050 Chicago, IL 60604 | 312-356-9001 | Clearing Services |
| Pictet Overseas Inc. | 6/1/2015 | 6/1/2015 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 1000 de la Gauchetiere West Suite 3100 Montreal, Quebec H3B 4W5 | 514-288-8161 | Agency |
| Piper Jaffray & Co. | 10/15/2008 | 11/15/2012 | 5/14/2010 | 5/14/2010 | NA | NA | Member TPH | 800 Nicollet Mall Minneapolis, MN 55402 | 612-303-6000 | Market Maker |
| Potamus Trading, LLC | 4/15/2013 | 4/15/2013 | 4/11/2013 | 4/11/2013 | NA | NA | Member TPH | 2 Seaport Lane 8th Floor Boston, MA 02210 | 617-855-8722 | Market Maker, Proprietary Trading |
| Princeton Alpha Management, LP | 12/1/2015 | 12/1/2015 | 12/1/2015 | 12/1/2015 | NA | NA | Sponsored Participant | 61 Princeton Hightstown Road West Windsor, NJ 08550 | 609-269-9212 | Agency |
| Puma Capital, LLC | NA | NA | 6/15/2016 | 6/15/2016 | NA | NA | Member TPH | 287 Bowman Avenue 3rd Floor Purchase, NY 10577 | 212-269-4100 | Market Maker, Proprietary Trading |
| Pundion LLC | 2/27/2017 | 2/27/2017 | 2/27/2017 | 2/27/2017 | NA | NA | Member TPH | 230 Park Avenue 10th Floor New York, NY 10169 | 718-618-4929 | Proprietary Trading |
| Pundion LLC | 10/15/2018 | 10/15/2018 | 10/15/2018 | 10/15/2018 | NA | NA | Sponsored Participant | 230 Park Avenue 10th Floor New York, NY 10169 | 718-618-4929 | Proprietary Trading |
| Quantbot Technologies LP | 3/27/2018 | 3/27/2018 | 3/27/2018 | 3/27/2018 | NA | NA | Sponsored Participant | 369 Lexington Avenue New York, NY 10017 | 212-622-6510 | Proprietary Trading |
| Quantex Clearing, LLC | 10/3/2011 | 12/27/2011 | 5/17/2011 | 5/17/2011 | NA | NA | Member TPH | 70 Hudson Street Hoboken, NJ 07030 | 201-706-7157 | Clearing Services |
| Quantlab Securities LP | 8/18/2008 | 11/1/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 3 Greenway Plaza Suite 200 Houston, TX 77046 | 713-333-3700 | Transact Business with the Public, Brokerage |
| Quiet Light Securities, LLC | NA | NA | NA | NA | 5/1/2001 | NA | Member TPH | 141 W Jackson Boulevard Suite 2020A Chicago, IL 60604 | 312-431-0573 | Market Maker, Proprietary Trading |
| R.W. Pressprich & Co. | 2/17/2009 | 11/15/2010 | 6/2/2010 | 6/2/2010 | NA | NA | Member TPH | 452 5th Avenue New York, NY 10018 | 212-832-6200 | Agency |
| Rackson Asset Management, LLC | 10/1/2009 | NA | NA | NA | NA | NA | Sponsored Participant | 2000 Broadway Suite 22C New York, NY 10023 | 212-724-2567 | Proprietary Trading |
| Radix Trading LLC | 11/5/2018 | 11/5/2018 | 11/5/2018 | 11/5/2018 | NA | NA | Sponsored Participant | 353 N Clark Street Suite 3200 Chicago, IL 60654 | 773-377-8080 | Research Firm |
| Rainier Investment Management, Inc. | 1/4/2010 | NA | NA | NA | NA | NA | Sponsored Participant | 601 Union Street Suite 2801 Seattle, WA 98101 | 206-518-8658 | Hedge Fund |
| RBC Capital Markets, LLC | 9/18/2008 | 10/14/2010 | 5/14/2010 | 5/14/2010 | 11/24/1993 | 10/19/2010 | Member TPH | 3 World Financial Center 200 Vesey Street New York, NY 10281 | 212-858-7000 | Clearing, Proprietary Trading, Transact Business with the Public |
| Robert W. Baird & Co. Incorporated | 10/23/2008 | 1/3/2011 | NA | NA | NA | NA | Member TPH | 777 E Wisconsin Avenue Milwaukee, WI 53202 | 414-765-3500 | Market Maker |
| Ronin Capital, LLC | NA | NA | NA | NA | 12/17/2001 | NA | Member TPH | 350 N Orleans Street Suite 2N Chicago, IL 60654 | 312-244-5000 | Market Maker |
| Ronin Professional, LLC | 8/18/2008 | 10/1/2010 | 5/25/2010 | 5/27/2010 | 1/2/2008 | 10/20/2010 | Member TPH | 350 N Orleans Street Suite 2N Chicago, IL 60654 | 312-244-5400 | Order Flow Provider, Transact Business with the Public, Brokerage |
| Rosenblatt Securities Inc. | 8/18/2008 | 10/6/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 40 Wall Street 59th Floor New York, NY 10005 | 212-607-3100 | Agency |
| Roth Capital Partners, LLC | 8/18/2008 | NA | NA | NA | NA | NA | Member TPH | 888 San Clemente Suite 400 Newport Beach, CA 92660 | 949-720-5700 | Market Maker |
| SAC Capital Advisors, LP | 10/23/2008 | NA | NA | NA | NA | NA | Sponsored Participant | 72 Cummings Point Road Stamford, CT 06902 | 203-890-2275 | Hedge Fund |
| Safra Securities LLC | NA | NA | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 546 5th Avenue New York, NY 10036 | 212-704-5500 | Market Maker |
| SageTrader, LLC | 3/1/2016 | 6/5/2017 | 6/5/2017 | 6/1/2016 | NA | NA | Member TPH | 340 Pine Street Suite 501 San Francisco, CA 94104 | 415-293-3894 | Public Customer Business |
| SAL Equity Trading, GP | 9/3/2008 | 10/5/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 401 City Avenue Suite 220 Bala Cynwyd, PA 19004 | 610-617-3000 | Agency, Institutional Trading |
| Sanford C. Bernstein & Co, LLC | 9/10/2008 | 10/21/2010 | 5/26/2010 | 5/27/2010 | 8/13/2013 | NA | Member TPH | 1345 Avenue of the Americas New York, NY 10105 | 212-969-1000 | Clearing, Proprietary Trading, Transact Business with the Public |
| Santander Investment Securities Inc. | 4/15/2009 | 1/3/2011 | NA | NA | NA | NA | Member TPH | 45 E 53rd Street New York, NY 10022 | 212-350-3500 | Institutional Trading |
| Scotia Capital (USA) Inc. | 3/2/2009 | 9/15/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 250 Vesey Street New York, NY 10281 | 212-225-6500 | Institutional Trading |
| Sea Otter Securities Group LLC | 10/9/2018 | 10/9/2018 | NA | 10/9/2018 | NA | NA | Sponsored Participant | 107 Grand Street 7th Floor New York, NY 10013 | 646-762-9972 | Proprietary Trading |
| Seven Points Capital, LLC | NA | NA | 5/14/2010 | NA | NA | NA | Member TPH | 805 3rd Avenue 15th Floor New York, NY 10022 | 212-760-0760 | Agency |
| SG Americas Securities, LLC | 9/17/2008 | 11/15/2011 | 5/14/2010 | 5/14/2010 | 4/23/2004 | 1/2/2015 | Member TPH | 245 Park Avenue New York, NY 10167 | 212-278-6000 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| Simplex Trading, LLC | 3/16/2015 | NA | NA | 4/13/2017 | 8/12/2010 | 3/1/2017 | Member TPH | 230 S LaSalle Street Suite 4-100 Chicago, IL 60604 | 312-360-2440 | Market Maker, Proprietary Trading |
| SMBC Nikko Securities America, Inc. | 8/7/2017 | 8/7/2017 | 8/7/2017 | 8/7/2017 | NA | NA | Member TPH | 277 Park Avenue 5th Floor New York, NY 10172 | 212-224-5039 | Institutional Trading |
| SogoTrade, Inc. | NA | NA | NA | 6/19/2017 | NA | NA | Member TPH | 11 Broadway Suite 514 New York, NY 10004 | 646-885-6486 | Public Customer Business |
| Stifel, Nicolaus & Company, Incorporated | 8/18/2008 | NA | 6/2/2010 | 6/2/2010 | NA | NA | Member TPH | 501 N Broadway St. Louis, MO 63102 | 314-342-2000 | Agency |
| Summit Securities Group, LLC | 7/16/2012 | 7/16/2012 | 8/20/2012 | 8/20/2012 | 6/6/2012 | NA | Member TPH | 55 Broadway Suite 2102 New York, NY 10006 | 646-738-4066 | Market Maker, Proprietary Trading |
| Sumo Capital, LLC | 7/15/2013 | NA | NA | 10/15/2015 | 3/3/2008 | NA | Member TPH | 440 S LaSalle Street Suite 2101 Chicago, IL 60605 | 312-324-0326 | Market Maker, Proprietary Trading |
| SumRidge Partners, LLC | NA | NA | NA | 12/27/2017 | NA | NA | Member TPH | 111 Town Square Place Suite 320 Jersey City, NJ 07310 | 201-898-2520 | Proprietary Trading |

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|---|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|-----------------------|---|--------------|---|
| Susquehanna Financial Group, LLLP | 9/3/2008 | 10/5/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 401 City Avenue Suite 220 Bala Cynwyd, PA 19004 | 800-825-9550 | Agency, Institutional Trading |
| Susquehanna Investment Group | NA | NA | NA | NA | 5/1/1987 | NA | Member TPH | 401 City Avenue Suite 220 Bala Cynwyd, PA 19004 | 610-617-2600 | Market Maker |
| Susquehanna Securities | 10/15/2014 | 10/15/2014 | 10/15/2014 | 10/15/2014 | 4/4/1994 | 9/24/2010 | Member TPH | 401 City Avenue Suite 220 Bala Cynwyd, PA 19004 | 610-617-2600 | Market Maker, Proprietary Trading |
| Synergy Capital Management, LLC | 8/1/2016 | NA | NA | NA | 6/5/2007 | NA | Member TPH | 141 W Jackson Boulevard Suite 1530 Chicago, IL 60604 | 312-986-8869 | Proprietary Trading |
| TD Ameritrade Clearing, Inc. | 5/3/2011 | 5/3/2011 | NA | 5/27/2010 | NA | NA | Member TPH | 200 S 108th Avenue Omaha, NE 68154 | 800-669-3900 | Public Customer Business, Clearing Services |
| Telsey Advisory Group, LLC | 1/24/2011 | 8/15/2014 | NA | NA | NA | NA | Member TPH | 555 5th Avenue 7th Floor New York, NY 10017 | 212-973-9700 | Public Customer Business |
| Tewksbury Investment Fund, Ltd. | 7/1/2011 | 7/1/2011 | 1/6/2015 | 1/6/2015 | NA | NA | Sponsored Participant | Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda | 610-971-5000 | Proprietary Trading |
| Tewksbury Investment Fund, Ltd. | 10/23/2008 | 11/15/2010 | NA | NA | NA | NA | Sponsored Participant | Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda | 212-310-7076 | Proprietary Trading |
| Themis Trading LLC | 8/18/2008 | 10/1/2010 | NA | NA | NA | NA | Member TPH | 10 Town Square Suite 100 Chatham, NJ 07928 | 973-665-9600 | Agency |
| ThinkTrade, LLC | 2/1/2010 | 10/20/2010 | 1/9/2015 | 1/9/2015 | NA | NA | Sponsored Participant | 2210 Encinitas Boulevard Suite I Encinitas, CA 92024 | 760-452-2451 | Proprietary Trading |
| Timber Hill LLC | NA | NA | NA | NA | 12/27/1996 | 12/15/2010 | Member TPH | One Pickwick Plaza Suite 200 Greenwich, CT 06830 | 203-618-5800 | Clearing, Market Maker |
| TJM Investments, LLC | NA | NA | NA | NA | 3/11/2013 | NA | Member TPH | 318 W Adams Street 9th Floor Chicago, IL 60606 | 312-432-5100 | Floor Broker, Transact Business with the Public |
| Tradebot Systems, Inc. | 8/18/2008 | 9/1/2010 | 5/26/2010 | 5/27/2010 | NA | NA | Member TPH | 1251 NW Briarcliff Parkway Suite 700 Kansas City, MO 64116 | 816-285-6400 | Proprietary Trading |
| TradeStation Securities, Inc. | 8/18/2008 | 9/1/2010 | 5/25/2010 | 5/25/2010 | NA | NA | Member TPH | 8050 SW 10th Street Suite 2000 Plantation, FL 33324 | 954-652-7900 | Market Maker |
| TRC Helepolis, Ltd. | 12/11/2009 | NA | NA | NA | NA | NA | Sponsored Participant | 377 Broadway 11th Floor New York, NY 10013 | 646-472-1792 | Proprietary Trading |
| TRC Markets LLC | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | NA | NA | Member TPH | 710 Johnnie Dodds Boulevard Suite 300 Mt. Pleasant, SC 29464 | 917-388-8644 | Agency |
| Trinity Executions, LLC | NA | NA | NA | NA | 11/1/2011 | NA | Member TPH | 141 W Jackson Boulevard Suite 3900 Chicago, IL 60604 | 312-878-4704 | Floor Broker, Transact Business with the Public |
| Tudor, Pickering, Holt & Co. Securities, Inc. | 8/18/2008 | 10/17/2011 | NA | NA | NA | NA | Member TPH | 1111 Bagby Suite 4900 Houston, TX 77002 | 713-333-7100 | Agency |
| Two Sigma Investments, LLC | 9/1/2009 | NA | NA | NA | NA | NA | Sponsored Participant | 100 Avenue of the Americas 4th Floor New York, NY 10013 | 212-775-6678 | Proprietary Trading |
| Two Sigma Partners Master Fund, Ltd. | 3/2/2009 | NA | NA | NA | NA | NA | Sponsored Participant | 100 Avenue of the Americas 4th Floor New York, NY 10013 | 212-775-6678 | Proprietary Trading |
| Two Sigma Securities, LLC | 7/1/2009 | NA | NA | NA | NA | NA | Sponsored Participant | 100 Avenue of the Americas 4th Floor New York, NY 10013 | 646-292-6643 | Proprietary Trading |
| Two Sigma Securities, LLC | 10/1/2009 | 10/5/2010 | 5/27/2010 | 5/27/2010 | 9/15/2017 | 7/18/2018 | Member TPH | 100 Avenue of the Americas 19th Floor New York, NY 10013 | 212-625-5700 | Market Maker, Broker |
| U.S. Securities, Intl. Corp. | NA | NA | NA | NA | 7/3/1973 | NA | Member TPH | 120 Broadway Suite 1017 New York, NY 10271 | 212-227-0800 | Transact Business with the Public |
| UBS Financial Services Inc. | NA | NA | NA | NA | 12/11/1972 | NA | Member TPH | 1200 Harbor Boulevard Weehawken, NJ 07086 | 201-352-3000 | Clearing, Transact Business with the Public |
| UBS Securities LLC | 10/15/2008 | 10/1/2010 | 4/12/2010 | 4/12/2010 | 10/1/1998 | 10/8/2010 | Member TPH | 1285 Avenue of the Americas New York, NY 10019 | 203-719-3000 | Clearing, Proprietary Trading, Transact Business with the Public |
| Ustocktrade Securities, Inc. | 4/17/2015 | NA | NA | NA | NA | NA | Member TPH | 275 Grove Street Suite 2-400 Newton, MA 02466 | 617-340-3041 | Public Customer Business, Proprietary Trading |
| ViewTrade Securities, Inc. | 8/18/2008 | 11/15/2010 | 6/10/2010 | 6/10/2010 | NA | NA | Member TPH | 7280 W Palmetto Park Road Suite 310 Boca Raton, FL 33433 | 561-620-0306 | Agency |
| Virtu Americas LLC | 9/15/2009 | 10/14/2010 | 1/3/2011 | 1/3/2011 | 9/18/2009 | 3/17/2011 | Member TPH | 300 Vesey Street New York, NY 10282 | 646-682-6000 | Clearing, Proprietary Trading, Transact Business with the Public, Brokerage |
| Virtu Financial BD LLC | 11/17/2008 | 10/7/2010 | 5/27/2010 | 5/27/2010 | 3/1/2010 | 6/12/2012 | Member TPH | 307 Camp Craft Road Austin, TX 78743 | 800-544-7508 | Proprietary Trading |
| Virtu Financial Capital Markets LLC | 8/18/2008 | 9/1/2010 | 5/25/2010 | 5/27/2010 | NA | NA | Member TPH | 300 Vesey Street New York, NY 10282 | 212-418-0100 | Proprietary Trading |
| Vision Financial Markets LLC | 4/1/2009 | 11/15/2010 | 7/13/2012 | 7/13/2012 | 12/11/2006 | NA | Member TPH | 120 Long Ridge Road 3 North Stamford, CT 06902 | 203-388-2700 | Clearing, Transact Business with the Public |
| Volant Execution, LLC | 6/15/2011 | NA | NA | 10/1/2015 | 4/12/2005 | 9/24/2010 | Member TPH | 111 W Jackson Boulevard 20th Floor Chicago, IL 60604 | 312-692-5000 | Clearing, Brokerage |
| Volant Liquidity, LLC | 4/15/2011 | NA | 5/27/2010 | 5/27/2010 | 2/1/2010 | 3/23/2011 | Member TPH | 250 Vesey Street Suite 2801 New York, NY 10281 | 646-804-7900 | Market Maker, Order Flow Provider, Brokerage |
| Wall Street Access | 11/3/2008 | 10/17/2011 | 5/27/2010 | 5/27/2010 | NA | NA | Member TPH | 17 Battery Place 11th Floor New York, NY 10004 | 212-709-9400 | Agency |
| Walleye Trading LLC | 12/1/2008 | 11/12/2010 | NA | 4/17/2018 | 6/1/2006 | NA | Member TPH | 2800 Niagara Lane North Plymouth, MN 55447 | 952-345-6611 | Market Maker |
| Wedbush Securities Inc. | 8/18/2008 | 9/1/2010 | 5/27/2010 | 5/27/2010 | 2/23/2012 | 3/8/2012 | Member TPH | 1000 Wilshire Boulevard Suite 900 Los Angeles, CA 90017 | 213-688-8090 | Clearing |
| Wells Fargo Clearing Services, LLC | 7/1/2016 | NA | NA | NA | 11/14/2016 | NA | Member TPH | One N Jefferson Avenue Mail Code: H0004-050 St. Louis, MO 63103 | 314-875-3000 | Clearing, Transact Business with the Public |
| Wells Fargo Securities, LLC | 8/18/2008 | 10/1/2010 | 6/9/2010 | 6/9/2010 | 4/1/2014 | 4/1/2014 | Member TPH | 550 S Tryon Street, 6th Floor D1086-060 Charlotte, NC 28202 | 704-410-1913 | Clearing, Proprietary Trading |
| Western International Securities, Inc. | 8/18/2008 | 11/15/2010 | NA | NA | NA | NA | Member TPH | 70 S Lake Avenue Suite 700 Pasadena, CA 91101 | 626-793-7717 | Market Maker |
| Wolverine Execution Services, LLC | 8/18/2008 | 10/19/2010 | 5/14/2010 | 5/14/2010 | 3/1/2006 | 9/24/2010 | Member TPH | 175 W Jackson Boulevard Suite 200 Chicago, IL 60604 | 312-884-4000 | Clearing, Floor Broker, Transact Business with the Public, Brokerage |

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|--------------------------------|-------------------|-------------------|--------------------|--------------------|---------------------|-------------------|--------------|--|--------------|---|
| Wolverine Securities, LLC | NA | NA | NA | 5/31/2017 | NA | NA | Member TPH | 175 W Jackson Boulevard Suite 200 Chicago, IL 60604 | 312-884-4000 | Market Maker |
| Wolverine Trading, LLC | 10/3/2011 | NA | NA | 10/1/2015 | 7/12/1994 | 9/24/2010 | Member TPH | 175 W Jackson Boulevard Suite 200 Chicago, IL 60604 | 312-884-4000 | Market Maker, Proprietary Trading |
| X-Change Financial Access, LLC | NA | NA | NA | NA | 5/1/2003 | NA | Member TPH | 440 S LaSalle Street Suite 2900 Chicago, IL 60605 | 312-235-0320 | Clearing, Floor Broker, Transact Business with the Public |
| XR Securities LLC | 1/15/2009 | 11/15/2010 | 5/10/2012 | 5/10/2012 | 11/30/2007 | NA | Member TPH | 550 W Jackson Boulevard Suite 1000 Chicago, IL 60661 | 312-244-4500 | Market Maker, Proprietary Trading |

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